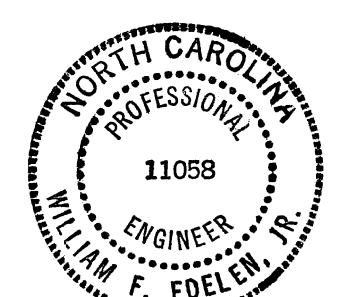
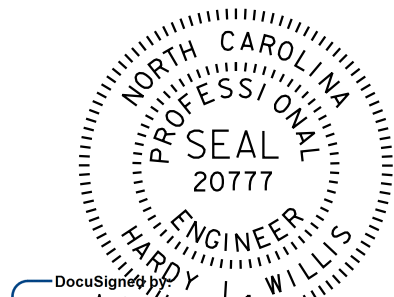


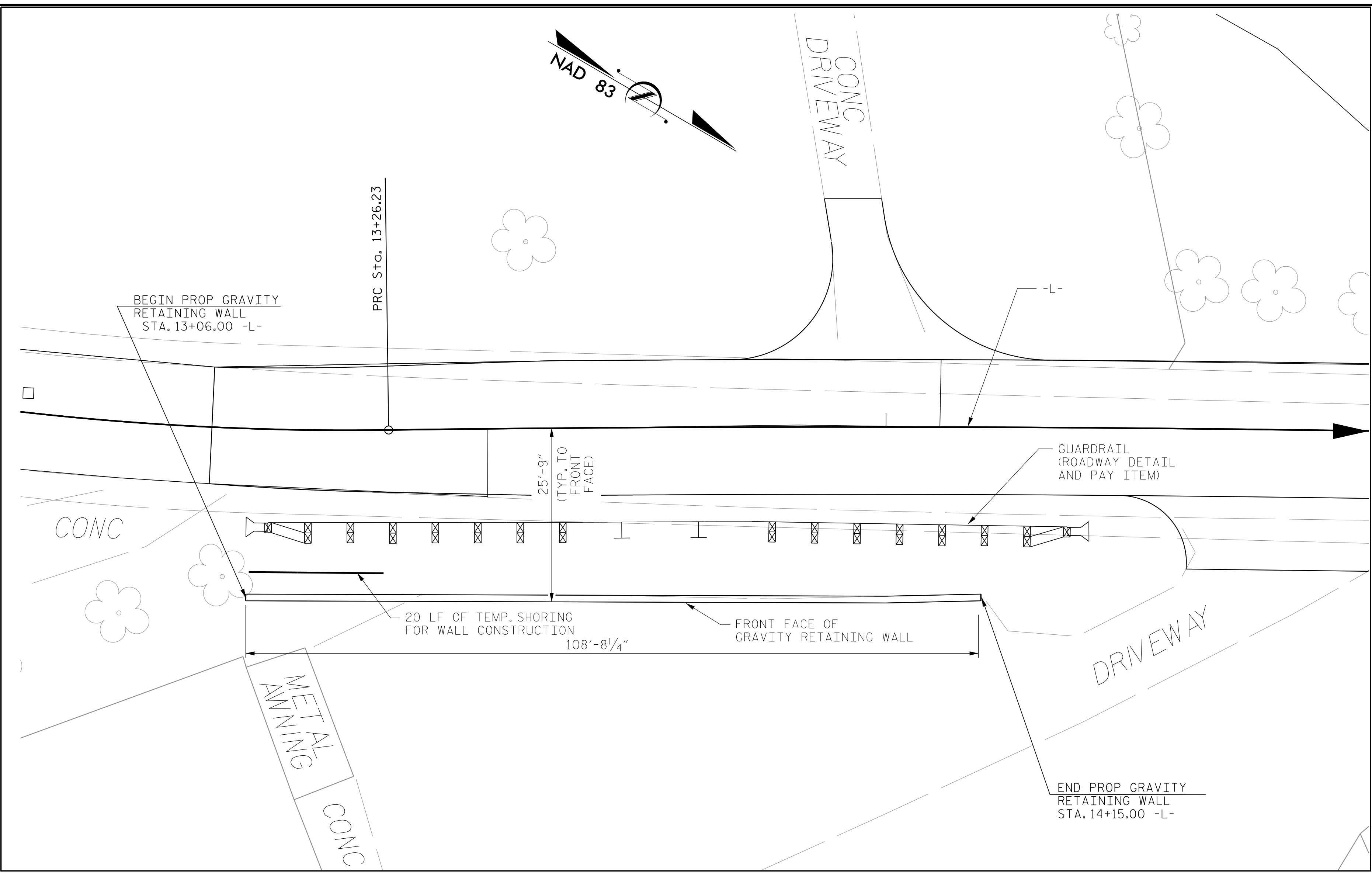
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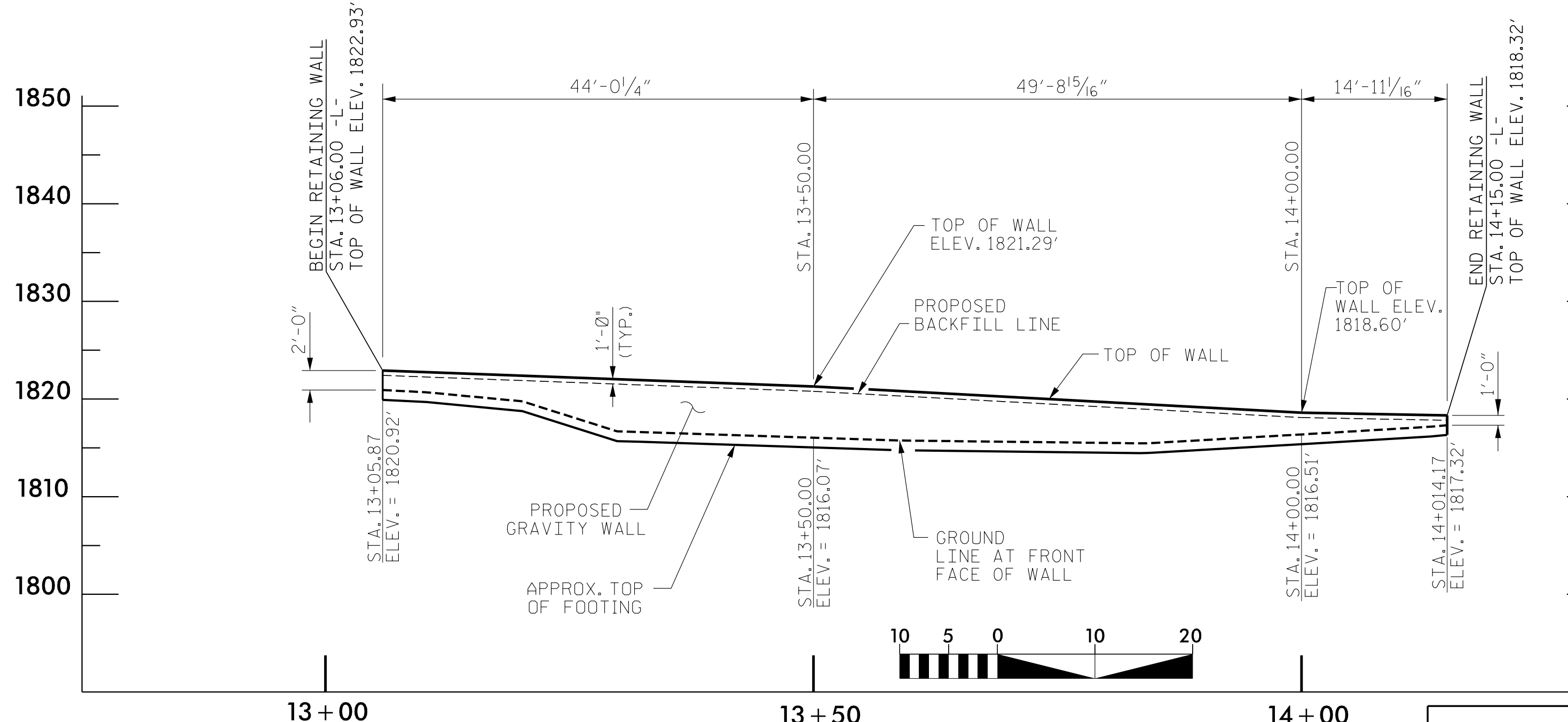
GEOTECHNICAL ENGINEER  William F. Edelen, Jr. 11/1/2016 8288007048848000	STRUCTURAL ENGINEER  Hardy L. Willis 11/1/2016 CC287CF0223461
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



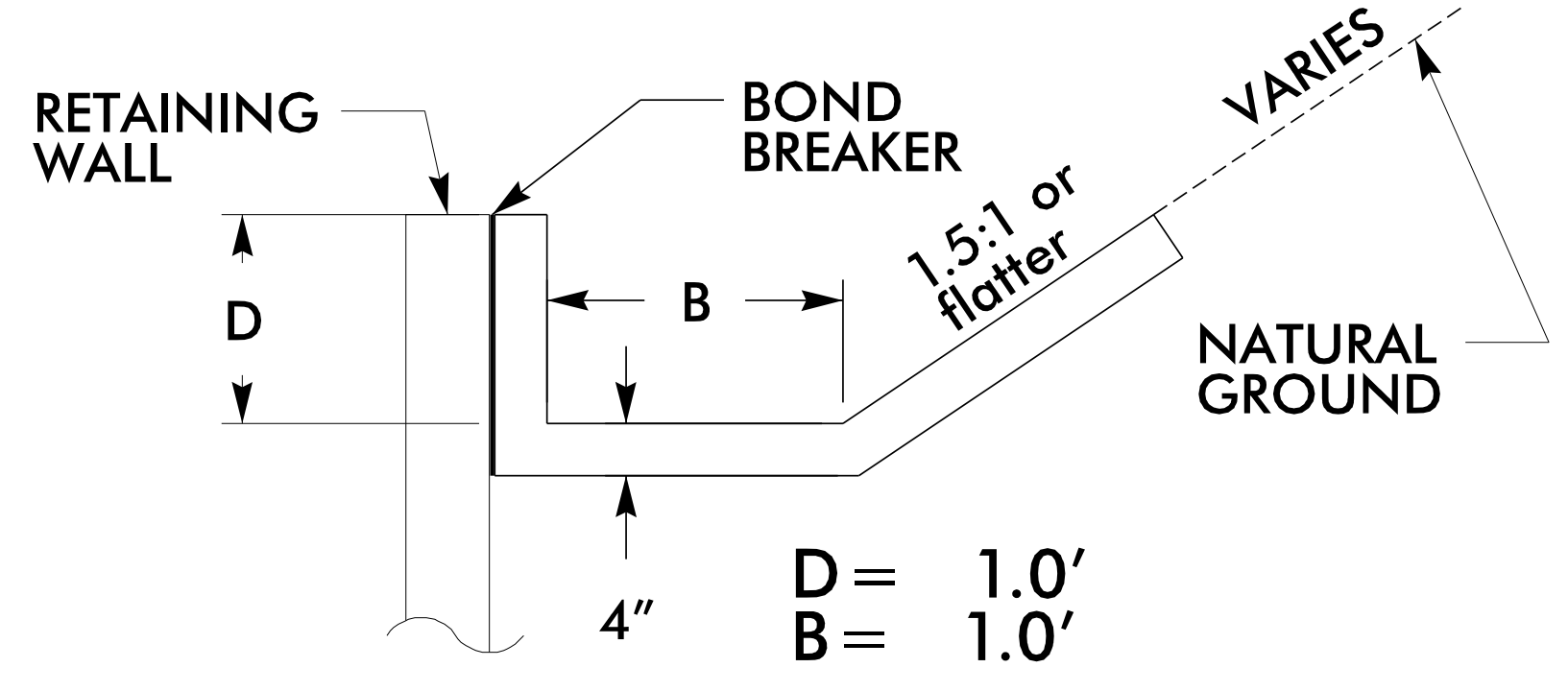
RETAINING WALL ELEVATIONS				
-L- STA	OFFSET FROM CL (RIGHT)	ELEV @ TOP OF WALL	PROPOSED FINISH GRADE	EXPOSED WALL HEIGHT
13+06.00	25'-9"	1822.93	1820.92	2.00
13+10.00	25'-9"	1822.62	1820.71	2.06
13+20.00	25'-9"	1822.40	1819.78	2.62
13+30.00	25'-9"	1822.00	1816.69	5.34
13+40.00	25'-9"	1821.66	1816.37	5.29
13+50.00	25'-9"	1821.29	1816.07	5.22
13+60.00	25'-9"	1820.75	1815.74	5.01
13+70.00	25'-9"	1820.21	1815.62	4.58
13+80.00	25'-9"	1819.70	1815.51	4.17
13+90.00	25'-9"	1819.14	1815.80	3.61
14+00.00	25'-9"	1818.60	1816.51	2.09
14+10.00	25'-9"	1818.41	1816.97	1.44
14+15.00	25'-9"	1818.32	1817.32	1.00

PLAN - RETAINING WALL #1



ELEVATION - RETAINING WALL #1
VIEWING FRONT FACE - UNFOLDED VIEW SCALE: 1" = 10'

RETAINING WALL AREA = 511 SQ. FT.



SECTION THRU WALL
NOT TO SCALE (SEE SHT. 2 OF 2 FOR DETAILS)

V&M
Vaughn & Melton
Consulting Engineers
Asheville, North Carolina
828-253-2796

Tri-Cities, TN 423-467-9400
 Knoxville, TN 865-546-5800
 Spartanburg, SC 864-574-4775
 Charleston, SC 843-574-5650
 Middleburg, KY 606-248-6600
 Charlotte, NC 704-357-0488
 Boone, NC 828-355-9933
 Atlanta, GA 770-627-3509

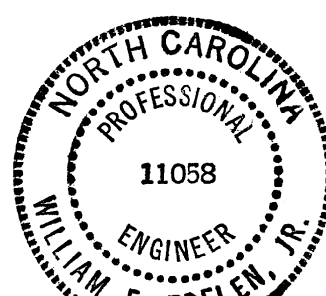
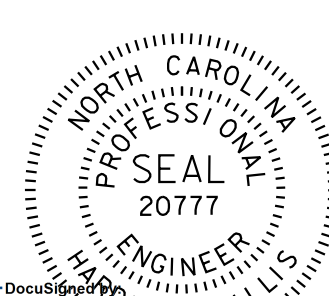
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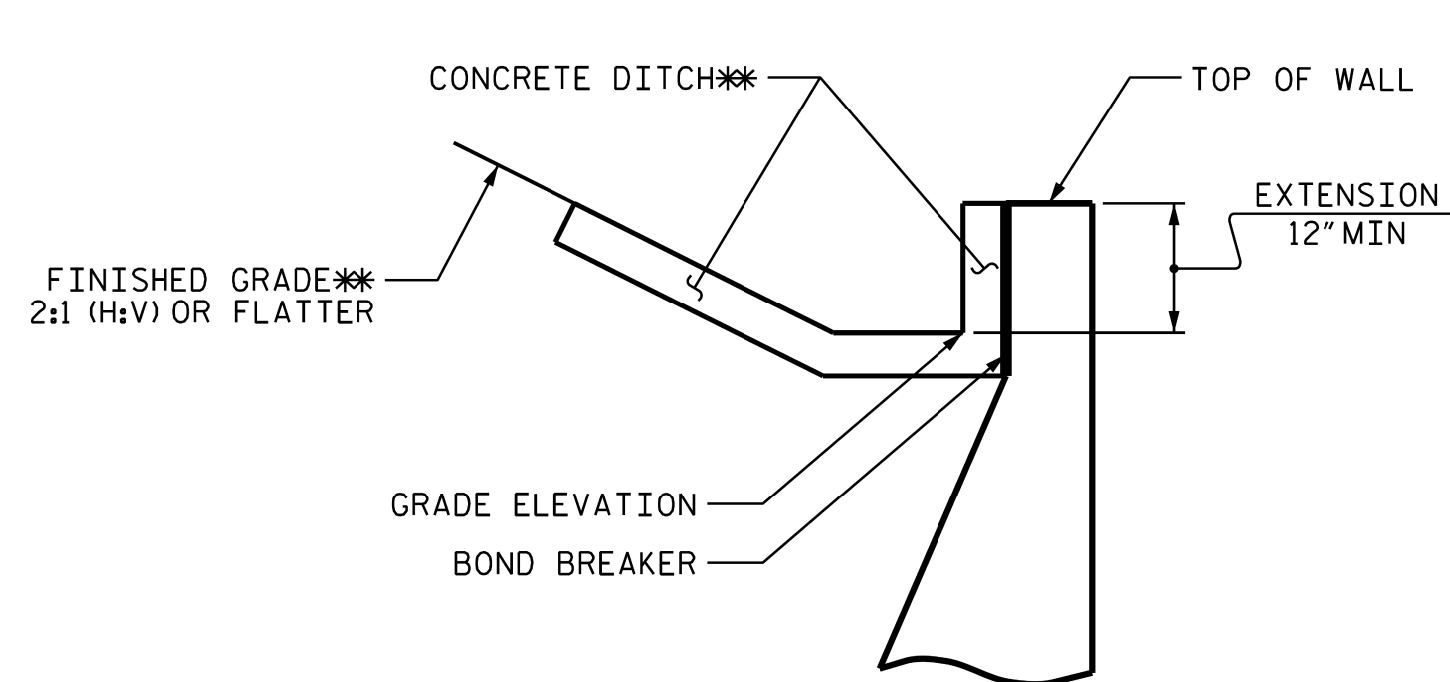
PROJECT NO. 14SP.20221.1/.2
CLAY COUNTY
STATION: 13+06.00 -L-
SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

RETAINING WALL NO. #1
STA. 13+06.00 TO
STA. 14+15.00 -L-

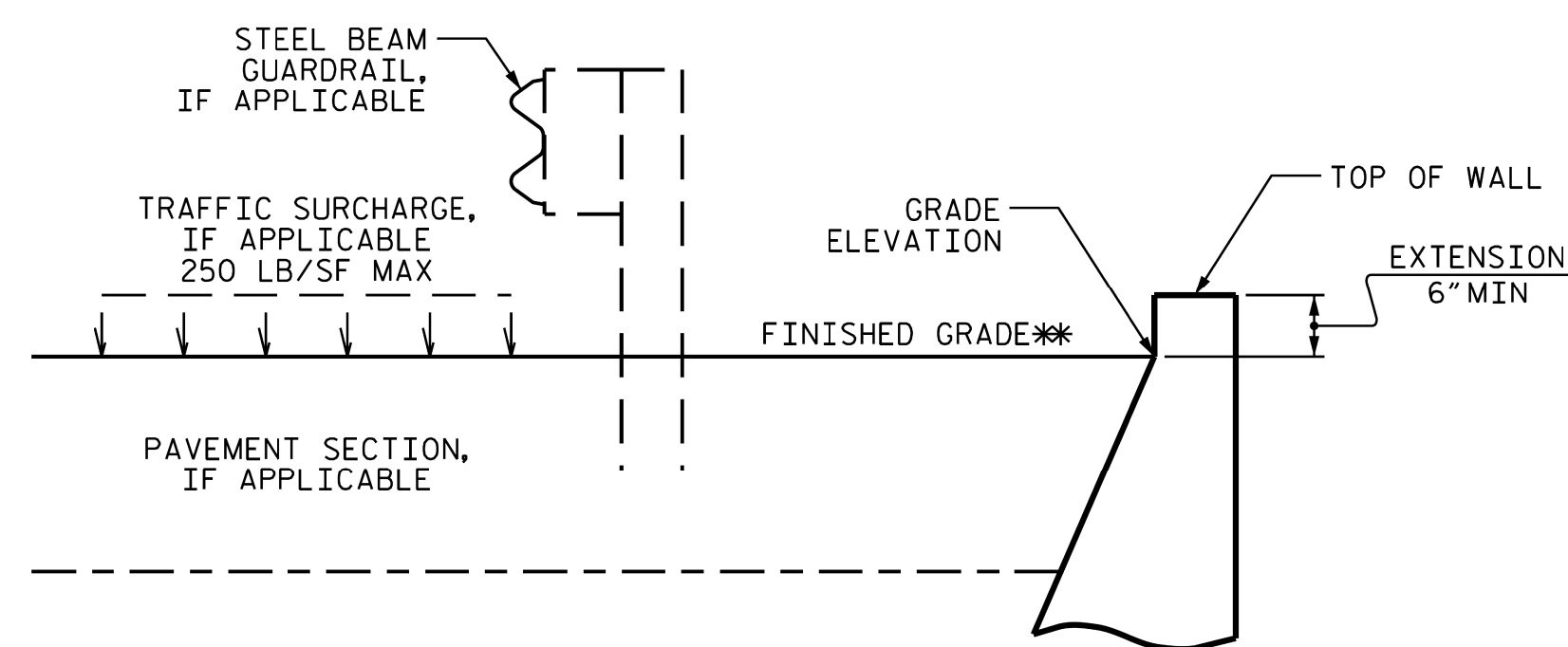
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	W-1	
1	JDD	7/14	3			TOTAL SHEETS	
2	HLW	7/14	4			2	

GEOTECHNICAL ENGINEER  William F. Edelen, Jr. 11/1/2016	STRUCTURAL ENGINEER  Hardy L. Willis 11/1/2016
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



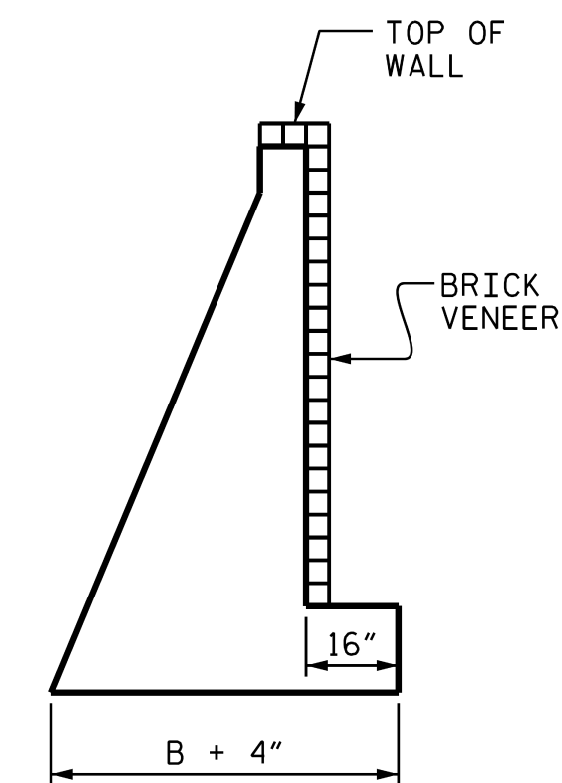
SLOPE CASE

SEE SHEET W-1 FOR CONCRETE DITCH AND FINISHED GRADE DETAILS.



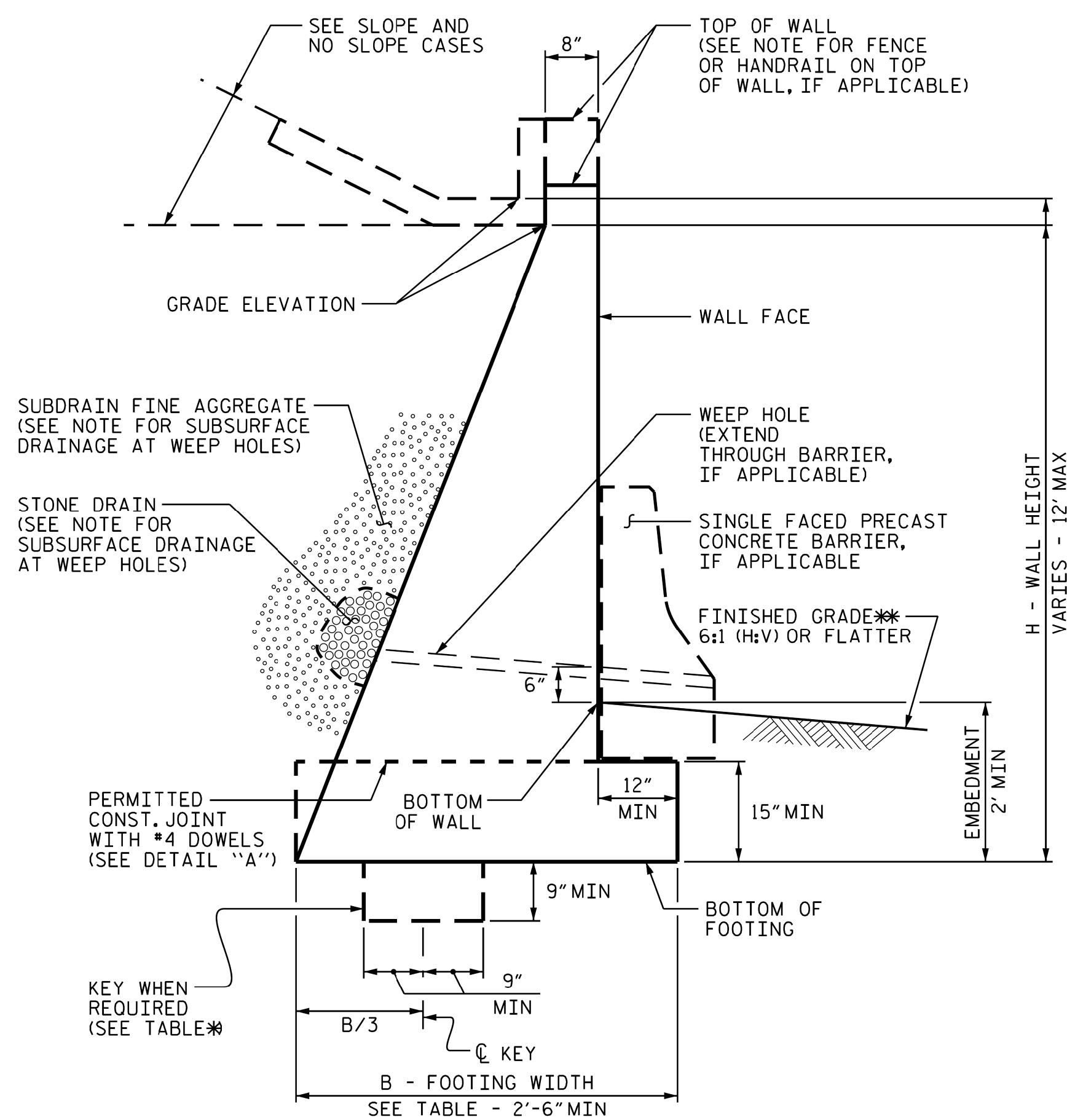
NO SLOPE CASE

SEE SHEET W-1 FOR FINISHED GRADE DETAILS.



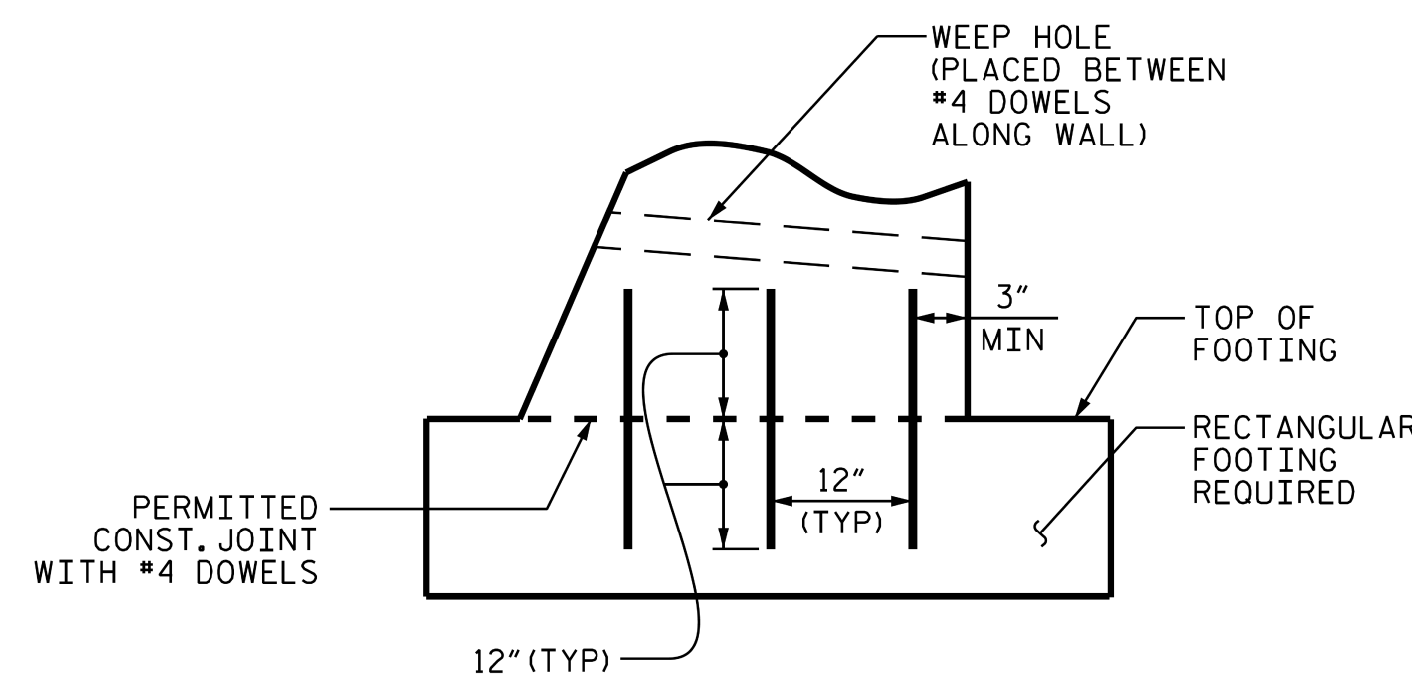
BRICK VENEER DETAIL

(WHEN APPLICABLE)



STANDARD CIP GRAVITY WALL

SEE SHEET W-1 FOR FINISHED GRADE DETAILS.



DETAIL "A"

H (FT)	3 - < 6	6 - 9	> 9 - 12
SLOPE CASE	.66	.70*	.75*
NO SLOPE CASE WITH TRAFFIC SURCHARGE	.80	.75*	.70*
NO SLOPE CASE WITHOUT TRAFFIC SURCHARGE	.60	.60	.60

B/H RATIO (B = 2'-6" MIN)

*KEY IS REQUIRED FOR "SLOPE CASE" OR "NO SLOPE CASE WITH TRAFFIC SURCHARGE" WHEN H IS 6' OR GREATER.

NOTES:

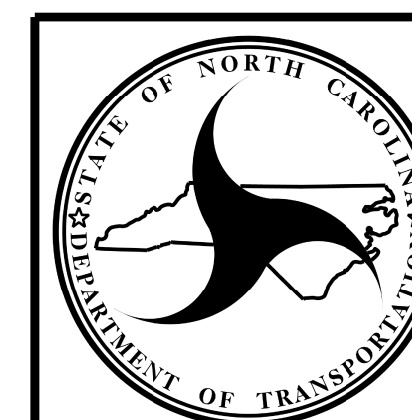
- FOR STANDARD CAST-IN-PLACE (CIP) GRAVITY RETAINING WALLS, SEE CAST-IN-PLACE GRAVITY RETAINING WALLS PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- FOR FENCES OR HANDRAILS ON TOP OF WALLS, SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- FOR SUBSURFACE DRAINAGE AT WEEP HOLES, SEE ARTICLE 414-8 OF THE STANDARD SPECIFICATIONS.
- STANDARD CIP GRAVITY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
 UNIT WEIGHT, $\gamma = 120$ LB/CF
 FRICTION ANGLE, $\phi = 28$ DEGREES (GROUNDWATER WITHIN 7' OF BOTTOM OF FOOTING)
 FRICTION ANGLE, $\phi = 28$ DEGREES (GROUNDWATER MORE THAN 7' BELOW BOTTOM OF FOOTING)
 COHESION, $c = 0$ LB/SF
- DO NOT USE STANDARD CIP GRAVITY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE OR GROUNDWATER IS ABOVE BOTTOM OF FOOTING.
- DO NOT USE STANDARD CIP GRAVITY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW WALLS.
- BEFORE BEGINNING STANDARD CIP GRAVITY WALL CONSTRUCTION, SURVEY WALL LOCATIONS AND SUBMIT WALL PROFILE VIEWS (WALL ENVELOPES) FOR REVIEW. FOR WALL ENVELOPES, INCLUDE BOTTOM OF WALL, EXISTING GROUND AND GRADE ELEVATIONS AND OTHER ELEVATIONS AS NEEDED AT INTERVALS OF 25' OR LESS ALONG WALLS. DO NOT START WALL CONSTRUCTION UNTIL WALL ENVELOPES ARE ACCEPTED.
- FOR BRICK VENEERS, SUBMIT BRICK SAMPLES FOR APPROVAL BEFORE BEGINNING STANDARD CIP GRAVITY WALL CONSTRUCTION.
- DO NOT PLACE CONCRETE FOR FOOTINGS UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
- WHEN CONSTRUCTING STANDARD CIP GRAVITY WALLS WITH A CONSTRUCTION JOINT AS SHOWN IN DETAIL "A", PROVIDE A MINIMUM OF 3 EQUALLY SPACED #4 DOWELS AT INTERVALS OF 1'-6" ALONG WALLS.
- DESIGN TEMPORARY SHORING FROM -L- STA. 13+06 +/- .20 FT RIGHT, TO -L- STA. 13+26 +/- .20 FT RIGHT.

PROJECT NO.: 14SP.20221.1/.2

CLAY COUNTY

STATION: 13+06.00 -L-

SHEET 2 OF 2



NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
**GEOTECHNICAL
 ENGINEERING UNIT**

STANDARD DETAIL NO. 453.01

STANDARD
 CAST-IN-PLACE (CIP)
 GRAVITY RETAINING WALL

DATE: 3-17-15

SHEET NO.
 W-2